



January 2018

Electric
Vehicles



Ecosystem
Intelligence



Mobility-as-
-a-Service



Autonomous
Solutions



Data &
Analytics



About Greentech Capital Advisors

Our mission is to empower companies and investors who are creating a more efficient and sustainable global infrastructure. We are purpose-built to ensure that our clients achieve success. We have deeply experienced senior bankers and investment professionals who are sector experts and understand our clients' industry and needs. We reach a vast global network of buyers, growth companies, asset owners and investors, and thereby provide clients with more ways to succeed through a deeper relationship network. We have directly relevant transaction experience which enables us to find creative structures and solutions to close transactions. We are an expert team of 55 professionals working seamlessly on our clients' behalf in New York, Zurich and San Francisco and through a strategic partnership in Japan. Our team of experienced bankers and investment professionals provides conflict-free advice and thoughtful, innovative solutions, and we do so with an intensely focused effort that does not stop until our clients achieve success.

Business Developments

Greentech's Take:

- > The ruling from this case will be an important legal precedent in advanced mobility

Greentech's Take:

- > Toyota, similar to other OEMs including GM and Daimler, has determined that it needs to shift and include mobility in additional traditional vehicle sales in its forward strategy

- > **Baidu and Asia Mobility Industries** launched a new \$200 million Singapore-based mobility venture fund, called "Apollo Southeast Asia" ([TechCrunch](#))
- > **BlackBerry** has launched a cybersecurity software, called Jarvis, to protect driverless cars by identifying vulnerabilities in their software ([CNBC](#))
- > **Ford** will increase its planned investments in EVs to \$11 billion by 2022 and have 40 hybrid and fully electric vehicles in its model lineup ([Reuters](#))
- > **General Motors** plans to mass-produce self-driving cars that lack traditional controls like steering wheels and pedals by 2019 ([Verge](#))
- > **General Motors** is facing one of the first lawsuits to involve autonomous vehicles, after a collision between its Cruise self-driving car and a motorbike in California ([The Guardian](#))
- > **Groupe PSA** plans to offer electric options for all of its vehicles by 2025, with a full 10% of the cars capable of full self-driving operation ([TechCrunch](#))
- > **Hyundai** will start testing a fuel-cell powered SUV for autonomous driving, aiming to bring a model to the market by 2021 ([Bloomberg](#))
- > **Kia** pledged to roll out 16 new advanced powertrain vehicles by 2025 ([BNEF](#))
- > **Nissan** announced it is developing 'brain-to-vehicle' technology that can allow cars to anticipate driving reactions ([TechCrunch](#))
- > **Nvidia** announced that its DRIVE Xavier autonomous machine processors are up and running and are being delivered to customers this quarter ([Nvidia](#))
- > The **Renault-Nissan-Mitsubishi** alliance is pooling \$200 million in a new mobility tech fund ([Reuters](#))
- > **Samsung** introduced the Telematics Control Unit, which will enable cars to communicate directly with traffic infrastructure and other cars ([VB](#)), and also unveiled DRVLIN, a hardware and software platform that will allow OEMs to create customized, technologically advanced AVs ([Engadget](#))
- > **Toyota** has formed the "e-Palette Alliance," which is a group intended to help guide its transformation as a mobility services company ([TechCrunch](#))
- > **Uber** believes that it will have self-driving cars in service within the next 18 months ([TechCrunch](#)) and will hit profitability by 2022 ([BNEF](#))
- > **Visteon** introduced DriveCore, a platform allowing for automakers to build autonomous driving solutions in an open collaboration model ([Visteon](#))
- > **Voyage** said it will start rolling out a fleet of self-driving taxis at The Villages, Florida which is home to 125,000 senior residents ([BBC](#))
- > **Waymo** is bringing its self-driving cars back to San Francisco streets for testing ([TechCrunch](#)) and is also beginning self-driving car testing in Atlanta ([Reuters](#))
- > **Waymo** also finalized an order for thousands of self-driving Chrysler Pacifica hybrid minivans, ramping up plans to deploy its own autonomous ride-hailing service ([CNBC](#))

Regulatory Developments

Greentech's Take:

- > The Trump Administration's anti-regulation mindset might actually speed up AV development

- > **California** approved proposals by utilities to spend \$41 million on EV charging projects to help the state reduce greenhouse gases ([BNEF](#)) and will aim to put five million zero-emission cars on its roads by 2030 ([WSJ](#))
- > **U.S. Department of Transportation** Secretary Elaine Chao announced that her department intends to "reduce the number of regulations that are hampering the growth of technology in this area" ([US News](#))
- > **Beijing** gave the green light for companies to start driverless car testing in the Yizhuang area in southeastern Beijing ([BNEF](#))

Selected Capital Raises

Greentech's Take:

- > While commercialized and mass-market AVs may still be years away, autonomous driving software is already functional and practical for narrow use cases like local commerce deliveries

- > **Almotive**, a Hungarian developer of AV software focused on using cameras as the primary sensors for autonomous vehicles, raised \$38 million ([VB](#))
- > **ActiveScaler**, a developer of Managed MaaS systems powered by artificial intelligence, received an undisclosed investment from DENSO ([PR Newswire](#))
- > **FreeWire Technologies**, a U.S. manufacturer of mobile rapid charging systems for electric vehicles, raised \$5 million from BP ([Reuters](#))
- > **Heetch**, a Paris, France-based provider of a ride-sharing platform, raised a \$20 million funding round led by Felix Capital ([FinSMEs](#))
- > **Maxi Mobility**, one of the biggest transportation network companies in the Spanish- and Portuguese-speaking world, raised \$160 million ([FT](#))
- > **Nexar**, an Israeli startup that makes an AI-based dashcam app to analyze road conditions and warn of hazards, raised a \$30 million Series B round ([VB](#))
- > **Nuro**, a developer of robotics-based autonomous vehicle software for self-driving delivery vehicles, raised \$92 million in Series A funding ([Reuters](#))
- > **Pony.ai**, a developer of level 4 autonomous driving technology, closed a Series A funding round of \$112 million ([Business Wire](#))
- > **Xiaopeng Motors**, a Chinese "Tesla clone" electric vehicle manufacturer, raised 2.2 billion yuan (\$348 million) from Alibaba and Foxconn ([WSJ](#))

Selected Mergers & Acquisitions

- > **Didi Chuxing** acquired **99**, the main Brazilian rival to Uber and a company in which Didi already held a stake, for \$1 billion ([TechCrunch](#))
- > **Continental** and **Bosch** each acquired a 5 percent stake in digital mapping firm **HERE Technologies** ([Reuters](#))
- > **BMW** acquired **Parkmobile**, an app that provides on-street and garage parking payments and spot reservation services in North America ([BMW](#))
- > **HERE Technologies** acquired **Micello**, a startup that offers a database of indoor maps as the "Google Maps inside a building" ([TechCrunch](#))
- > **Ford** acquired transportation software companies **Autonomic Technologies** and **TransLoc** for undisclosed sums ([Reuters](#))

Selected Partnerships

Greentech's Take:

- > To secure market access in more politically sensitive countries like China, foreign companies will need to partner locally to navigate the highly restrictive terms imposed on foreign technology companies

- > **Aptiv** and **Lyft** will extend their self-driving taxis pilot in Las Vegas and will continue to pick up and drop off passengers in and around the city ([Fortune](#))
- > **Baidu** will work with **BlackBerry** in a partnership that will see QNX used as the basis for Baidu's Apollo self-driving platform ([TechCrunch](#))
- > **Cisco** announced a smart city partnership with LiDAR sensor manufacturer **Quanergy** to enhance smart transportation via IoT solutions. ([Dive](#))
- > **Ford** and **Qualcomm** are partnering to install Qualcomm's V2X cellular technology in all of Ford's new cars by 2019 ([Verge](#))
- > **Intel** is partnering with Chinese automaker **SAIC** and with Chinese navigational map player **Navinfo** to integrate and localize Mobileye's Road Experience Management (REM) product in China ([TechCrunch](#))
- > **TomTom** and **Zenuity**, the autonomous driving JV between Autoliv and Volvo, are collaborating on HD mapping, localization, perception, and path planning for the Zenuity autonomous driving software stack ([TomTom](#))
- > **Torc Robotics** and **AAA** are partnering to develop safety criteria for self-driving cars through a testing program on public streets ([Torc](#))
- > **Volkswagen** and **Hyundai** are individually partnering with driverless-car startup **Aurora Innovation** to put Aurora's self-driving software in production vehicles by 2021 ([WSJ](#))

Capital Raises

Date	Company	Invested (\$mm)	Investors	Company Description
1/30	FreeWire	\$5.0	British Petroleum	Developer and manufacturer of mobile energy storage and electric vehicle charging systems. The company's mobile energy storage systems are used across a number of different use cases, including portable electric vehicle charging
1/29	Nuro	\$92.0	Banyan Capital, Greylock Partners	Developer of robotics based autonomous vehicle software for self-driving delivery vehicles. At about half the width of a traditional passenger sedan, Nuro's vehicle, shaped like a tiny minivan, can autonomously deliver goods locally
1/29	Xiaopeng Motors	\$348.0	Alibaba Group Holding, Foxconn Technology Group	Developer of Internet cars and electric vehicles designed to offer autonomous driving technologies. The company's Internet cars and electric vehicles include features such as central touchscreen, intelligent low-speed driving and remote control
1/26	Heetch	\$20.0	Felix Capital, Via-ID, Idivest Partners, Alven Capital Partners, InnovAllianz	A Paris, France-based provider of a ride-sharing platform that competes directly with Uber in 6 French cities (Paris, Lille, Lyon, Bordeaux, Marseille, Nice)
1/24	Nexar	\$30.0	Ibex Ventures, Alibaba, Nationwide Insurance, GE Ventures and previous investors Aleph, Mosaic Ventures, Slow Ventures, True Ventures, Tusk Ventures	Developer of a dashcam recording app that uses artificial intelligence to analyze road conditions and warn of hazardous events. The app employs machine vision and sensor fusion algorithms, leveraging user's phone's sensors to analyze and understand the car's surroundings
1/22	Maxi Mobility	\$160.0	Rakuten Capital, TheVentureCity, Endeavor Catalyst, GAT Investments, Lili Ventures, WTI	One of the biggest transportation network companies in the Spanish- and Portuguese-speaking world, operating in Latin America, Spain, and Portugal. The company provides vehicles for hire via its smartphone mobile app
1/19	Understand.ai	\$2.8	LEA Partners, Synapse Partners, Frontline Ventures, Agile Partners	Provider of image and video data for autonomous vehicles, focusing on a combined human-machine approach to increase efficiency in data labelling, and reduce margins for error
1/17	Caocao Zhuanche	\$151.7	Undisclosed Investors	Chinese electric vehicle sharing company that uses only electric vehicles made by Chinese automaker Geely, who is a strategic investor in the company. Caocao Zhuanche operates in 17 cities with over 12,000 drivers, and fills roughly 150,000 orders daily
1/15	Pony.ai	\$112.0	Morningside Venture Capital, Legend Capital, Sequoia China, IDG Capital, Hongtai Capital, Legend Star, Polaris Capital, DCM Ventures, Comcast Ventures, Silicon Valley Future Capital	Developer of a AI based self-driving technology designed for autonomous driving. The company's self-driving technology is a self-developed software algorithm that enables a vehicle to perceive its surroundings, predict what others will do and maneuver itself accordingly
1/5	ActiveScaler	Undisclosed	DENSO	Developer of "Managed MaaS", the underlying technology (customizable AI-powered secure and scalable platform, service modules and applications, etc.), required by businesses to implement Mobility-as-a-Service solutions for their market needs
1/4	AlMotive	\$37.9	B Capital Group, Prime Ventures, Cisco Investments, Samsung Catalyst, Robert Bosch Venture Capital, Inventure, Draper Associates, PortfoLion, Day One Capital	Software company focused on developing cameras as the primary sensors for autonomous vehicles. The company also delivers artificial intelligence based software for self-driving cars, providing the full spectrum of automated driving functionalities

Mergers & Acquisitions

Date	Target	Acquiror	EV			Target Description
			(\$mm)	Revenue	EBITDA	
1/25	Autonomic	Ford	n.a.	n.a.	n.a.	Developer of the "Transportation Mobility Cloud", a platform that will connect the components of urban mobility systems, including connected vehicles, mass transit, pedestrians, city infrastructure, etc.
1/25	TransLoc	Ford	n.a.	n.a.	n.a.	Developer of a technology to support "microtransit" services, including, real-time tracking, demand modelling and response analysis, as well as consumer-facing mobile apps and services
1/24	Micello	HERE Technologies	n.a.	n.a.	n.a.	Developer of a mobile navigational application designed to offer indoor maps and navigation content
1/16	Parkmobile	BMW	n.a.	n.a.	n.a.	Developer of an on-demand and prepaid mobile payments application designed to easily find and pay for parking through mobile
1/4	HERE Technologies	Continental, Bosch	n.a.	n.a.	n.a.	Continental and Bosch are each acquiring a 5% stake in the high definition mapping technology company
1/3	99	Didi Chuxing	\$1,000.0	n.a.	n.a.	Leading ride-sharing and ride-hailing app in Brazil that connects passengers with local drivers and helps with booking cabs

Advanced Mobility Market Update

Trading Comparables

Company	Price as of 1/31/2018	Market Cap	Firm Value	EV / Revenue		EV / EBITDA		P / E	
				2018E	2019E	2018E	2019E	2018E	2019E
Automotive Companies									
Toyota	¥ 7480.0	\$228,056	\$366,961	1.4x	1.3x	12.0x	11.3x	11.0x	10.2x
Volkswagen	€ 178.50	112,012	277,154	0.9x	0.9x	6.1x	5.9x	6.8x	6.5x
Daimler	€ 73.73	98,690	222,209	1.1x	1.0x	8.9x	8.8x	8.0x	8.0x
BMW	€ 91.97	74,936	181,684	1.4x	1.4x	9.8x	9.5x	8.3x	8.0x
Ford	\$ 10.97	43,935	159,421	1.1x	1.1x	13.3x	12.6x	7.0x	7.2x
General Motors	\$ 42.41	60,651	131,372	0.9x	0.9x	7.7x	7.5x	7.1x	6.9x
Nissan	¥ 1163.50	45,473	112,281	1.0x	1.0x	9.6x	9.2x	7.5x	7.0x
Honda	¥ 3826.0	65,135	111,441	0.8x	0.8x	8.4x	7.9x	9.9x	9.1x
Hyundai	₩ 162000.0	38,215	79,112	0.9x	0.8x	9.9x	9.2x	8.5x	7.7x
SAIC Motor	¥ 34.39	63,922	74,753	0.5x	0.5x	12.7x	11.7x	10.4x	9.7x
Renault	€ 88.57	32,677	74,426	1.0x	0.9x	8.7x	8.5x	5.6x	5.3x
Tesla	\$ 354.31	58,398	67,916	3.5x	2.4x	32.0x	16.3x	NM	NM
Fiat Chrysler	€ 19.46	47,409	54,053	0.4x	0.4x	3.1x	3.0x	6.3x	6.0x
BYD	HK\$ 73.65	26,726	37,398	1.7x	1.5x	12.7x	11.2x	24.9x	20.8x
Suzuki	¥ 6228.0	28,205	26,915	0.8x	0.7x	5.2x	4.8x	13.0x	12.2x
Tata Motors	₹ 399.25	19,783	25,572	0.5x	0.4x	3.6x	3.1x	10.0x	7.9x
Geely	HK\$ 25.05	28,277	25,556	1.4x	1.2x	9.3x	7.7x	13.3x	10.2x
Guangzhou Automobile	HK\$ 17.72	24,273	22,577	1.6x	1.5x	16.8x	14.5x	7.6x	6.8x
Subaru	¥ 3618.0	25,713	17,462	0.5x	0.5x	3.5x	3.3x	9.6x	8.5x
Peugeot	€ 18.09	20,566	14,945	0.2x	0.2x	1.8x	1.7x	7.7x	7.0x
KIA	₩ 34650.0	12,983	12,169	0.2x	0.2x	3.6x	3.3x	6.8x	5.9x
Dongfeng Motor	HK\$ 10.22	11,170	11,680	0.6x	0.6x	23.3x	20.7x	5.2x	5.1x
Mazda	¥ 1529.50	8,992	8,688	0.3x	0.3x	3.7x	3.4x	7.7x	7.1x
Mitsubishi	¥ 809.0	11,195	6,832	0.3x	0.3x	4.1x	3.5x	12.2x	10.6x
FAW Car Group	¥ 12.26	3,050	3,069	0.6x	0.6x	8.4x	8.2x	21.5x	19.2x
Mean				0.9x	0.9x	9.5x	8.3x	9.8x	8.9x
Median				0.9x	0.8x	8.7x	8.2x	8.2x	7.8x
Truck Companies									
Daimler	€ 73.73	\$98,690	\$222,209	1.1x	1.0x	8.9x	8.8x	8.0x	8.0x
Volvo	₩ 160.85	43,436	56,369	1.3x	1.2x	9.4x	9.0x	14.3x	13.4x
PACCAR	\$ 74.56	26,631	31,841	1.6x	1.5x	9.4x	9.0x	14.3x	13.8x
Isuzu	¥ 1839.0	14,504	15,480	0.8x	0.8x	6.7x	6.2x	12.1x	11.2x
Navistar	\$ 45.83	4,519	8,424	0.9x	0.8x	11.4x	10.1x	19.8x	14.8x
Mean				1.1x	1.1x	9.1x	8.6x	13.7x	12.2x
Median				1.1x	1.0x	9.4x	9.0x	14.3x	13.4x
Tier 1 Suppliers									
Continental	€ 241.70	\$60,446	\$65,216	1.1x	1.1x	7.2x	6.6x	13.8x	12.7x
Denso	¥ 6823.0	50,646	49,835	1.0x	1.0x	7.6x	7.1x	16.2x	14.9x
Bridgestone	¥ 5306.0	37,534	36,556	1.1x	1.0x	5.8x	5.6x	12.7x	12.0x
Michelin	€ 128.80	28,749	31,829	1.2x	1.1x	5.8x	5.5x	12.3x	11.4x
Aptiv	\$ 94.88	25,156	29,076	2.1x	2.0x	12.6x	11.7x	18.4x	16.8x
Magna	C\$ 70.26	20,857	24,242	0.6x	0.6x	5.7x	5.4x	8.4x	7.4x
Valeo	€ 63.50	18,922	20,715	0.8x	0.7x	6.1x	5.5x	13.3x	11.8x
Goodyear	\$ 34.82	8,730	14,492	0.9x	0.9x	5.9x	5.5x	9.2x	7.5x
Lear	\$ 193.14	13,355	13,968	0.6x	0.6x	6.2x	6.1x	10.2x	9.6x
Autoliv	\$ 152.21	12,998	13,514	1.2x	1.1x	9.3x	8.2x	20.5x	17.4x
Faurecia	€ 72.38	12,460	13,275	0.6x	0.6x	5.2x	4.9x	14.1x	13.0x
Visteon	\$ 130.08	4,085	3,859	1.2x	1.1x	9.8x	9.0x	19.0x	16.4x
ATS Automation Tooling Systems	C\$ 16.64	1,266	1,260	1.4x	1.4x	11.4x	10.3x	21.5x	18.7x
Stoneridge	\$ 24.34	690	774	0.9x	0.9x	7.4x	6.9x	14.2x	11.9x
Mean				1.0x	1.0x	7.6x	7.0x	14.6x	13.0x
Median				1.0x	1.0x	6.7x	6.4x	14.0x	12.3x
Autonomous Driving Chip Makers									
Intel	\$ 48.14	\$228,337	\$242,014	3.7x	3.6x	8.8x	8.6x	13.6x	12.8x
Nvidia	\$ 245.80	147,088	142,783	13.2x	11.4x	35.6x	28.8x	52.7x	41.1x
Qualcomm	\$ 68.25	99,171	83,756	3.7x	3.6x	11.8x	10.2x	19.2x	17.4x
Advanced Micro Devices	\$ 13.74	12,417	12,627	2.0x	1.9x	20.1x	15.8x	35.8x	25.1x
Mean				5.6x	5.1x	19.1x	15.8x	30.3x	24.1x
Median				3.7x	3.6x	15.9x	13.0x	27.5x	21.2x

Advanced Mobility Market Update

Trading Comparables (cont.)

Company	Price as of 1/31/2018	Market Cap	Firm Value	EV / Revenue		EV / EBITDA		P / E	
				2018E	2019E	2018E	2019E	2018E	2019E
Intelligent Transport									
Roper Technologies	\$ 280.59	\$28,623	\$33,352	6.8x	6.5x	19.1x	17.8x	27.3x	25.0x
FLIR Systems	\$ 51.21	7,134	7,117	3.7x	3.5x	15.6x	14.1x	23.8x	20.7x
LS Corp	W 79000.0	2,491	6,131	0.6x	0.6x	8.0x	7.9x	10.2x	9.4x
Gosuncn Technology Group	Y 12.04	2,322	2,263	4.2x	3.2x	NM	NM	23.6x	18.9x
Beijing E-Hualu IT	Y 27.50	1,681	2,162	3.3x	2.4x	24.1x	NM	31.6x	20.1x
Cubic Corporation	\$ 58.05	1,618	1,804	1.2x	1.1x	13.8x	11.3x	34.2x	NM
Vaisala	€ 45.90	1,028	938	2.2x	2.1x	13.8x	12.1x	22.3x	19.9x
INIT Innovation in Traffic Systems	€ 18.70	229	269	1.7x	1.5x	12.1x	10.2x	31.2x	23.4x
Iteris, Inc	\$ 6.76	210	194	1.7x	1.4x	76.5x	9.0x	NM	23.6x
Mean				2.8x	2.5x	22.9x	11.8x	25.5x	20.1x
Median				2.2x	2.1x	14.7x	11.3x	25.5x	20.4x
ITS / Smart Tolling									
Atlantia	€ 26.68	\$27,251	\$47,320	6.2x	5.9x	10.0x	9.5x	17.6x	16.5x
Abertis Infraestructuras	€ 19.52	23,762	46,973	6.4x	6.3x	9.8x	9.4x	17.9x	16.3x
Ferrovial	€ 18.48	16,757	23,309	1.6x	1.6x	21.1x	19.3x	35.1x	30.1x
Autostrada	€ 21.85	2,793	6,196	2.5x	2.3x	6.3x	6.0x	13.0x	10.2x
Conduent	\$ 16.40	3,488	5,199	0.9x	0.9x	7.2x	6.6x	16.8x	14.2x
Kapsch TrafficCom	€ 48.50	758	779	0.9x	0.8x	7.9x	7.3x	14.5x	13.1x
Q-Free	NOK 7.90	93	120	1.0x	0.9x	11.5x	7.6x	26.3x	13.2x
Mean				2.8x	2.7x	10.5x	9.4x	20.2x	16.2x
Median				1.6x	1.6x	9.8x	7.6x	17.6x	14.2x
Telematics									
TomTom	€ 8.77	\$2,579	\$2,453	2.3x	2.3x	10.9x	8.9x	26.8x	20.1x
Orbcomm	\$ 11.49	849	1,059	3.8x	3.5x	16.3x	13.0x	NM	NM
CalAmp	\$ 24.48	872	873	2.2x	2.1x	14.3x	11.9x	19.2x	16.4x
Ituran	\$ 34.90	740	712	2.8x	2.7x	9.2x	8.4x	16.2x	14.2x
MiX Telematics	R 5.49	278	256	1.7x	1.5x	6.4x	5.8x	19.9x	17.1x
Quartix ⁽¹⁾	£ 3.60	244	237	6.5x	NM	22.3x	NM	28.0x	NM
Quarterhill (fka Wi-LAN)	C\$ 2.24	213	182	1.7x	1.5x	9.0x	6.4x	12.3x	7.7x
TeleNav	\$ 5.65	250	155	1.0x	0.6x	NM	39.5x	NM	NM
Kerlink	€ 23.0	143	129	2.9x	2.0x	NM	NM	NM	21.9x
Mean				2.6x	1.9x	12.3x	12.8x	25.8x	16.1x
Median				2.3x	2.0x	10.5x	8.6x	19.9x	16.4x
Logistics									
UPS	\$ 127.32	\$110,566	\$125,045	1.8x	1.7x	11.0x	10.4x	17.6x	16.1x
FedEx	\$ 262.48	70,043	82,716	1.2x	1.2x	8.4x	7.6x	16.9x	14.2x
Deutsche Post	€ 38.07	58,395	63,225	0.8x	0.8x	9.1x	8.5x	15.6x	14.4x
Fortive	\$ 76.02	26,425	29,190	4.1x	3.8x	16.7x	15.4x	23.2x	21.0x
J.B. Hunt	\$ 120.83	13,249	14,320	1.7x	1.6x	11.8x	10.5x	23.1x	19.6x
Penske	\$ 52.19	4,529	10,374	0.5x	0.5x	13.0x	12.5x	11.0x	10.4x
Descartes Systems	\$ 28.35	2,182	2,204	8.2x	7.5x	23.3x	20.5x	58.9x	47.0x
Mean				2.6x	2.4x	13.3x	12.2x	23.8x	20.4x
Median				1.7x	1.6x	11.8x	10.5x	17.6x	16.1x
Communications / Infrastructure									
AT&T	\$ 37.45	\$229,882	\$345,302	2.2x	2.2x	6.6x	6.6x	12.1x	12.0x
Verizon	\$ 54.07	219,858	336,465	2.6x	2.6x	7.1x	7.0x	12.0x	11.7x
Cisco Systems	\$ 41.54	208,868	173,203	3.6x	3.5x	10.3x	10.0x	16.5x	15.5x
T-Mobile	\$ 65.10	53,878	84,045	2.0x	1.9x	7.1x	6.5x	21.4x	16.6x
Hitachi	¥ 866.40	39,064	54,314	0.6x	0.6x	5.2x	5.1x	11.2x	10.2x
Sprint	\$ 5.33	21,131	53,097	1.6x	1.6x	4.5x	4.2x	NM	NM
Toshiba	¥ 311.0	18,877	25,026	0.7x	0.7x	12.9x	12.5x	9.0x	10.6x
Xerox	\$ 34.13	8,305	12,770	1.3x	1.3x	7.1x	7.4x	9.7x	9.4x
Mean				1.8x	1.8x	7.6x	7.4x	13.1x	12.3x
Median				1.8x	1.7x	7.1x	6.8x	12.0x	11.7x
Aggregate Mean				1.9x	1.7x	11.3x	9.5x	17.0x	14.1x
Aggregate Median				1.2x	1.1x	9.3x	8.5x	14.1x	12.8x

Source: FactSet, SEC filings and third party providers. Values in U.S. Dollars. Share prices shown in local currencies.

(1) Denotes limited equity research coverage.

Global Experts in Sustainable Technology and Infrastructure



San Francisco



New York



Zürich

Tokyo

Partnership with Sangyo Sosei Advisory Inc.



INVESTMENT BANKING

Mergers & Acquisitions

- Corporate sales
- Asset sales
- Acquisitions
- Minority investments
- Joint ventures
- Fairness opinions

\$12bn

Capital Raising

- Equity private placements
- Debt private placements
- Project finance advisory
- Co-managed public offerings

\$4bn

Strategic Advisory

- Strategic consulting
- IPO preparation
- Financial restructuring
- Specialized opinions
- Independent capital markets advice

>20 assignments

ASSET MANAGEMENT

Public Equity

- GCA Sustainable Growth Fund
- GCA Emerging Markets Sustainable Growth Fund

\$630mm

Highly Experienced Partners Supported by 55 Professionals

Jeff McDermott



Managing Partner
New York
+1 212 946 3940
jeff@greentechcapital.com

- > 30+ years of experience
- > >150 completed transactions
- > Founder and head of advisory business
- > Large industrials and energy companies
- > Broad coverage of senior leaders

Derek Bentley



Partner
New York
+1 212 946 3948
dbentley@greentechcapital.com

- > 15+ years of experience
- > >35 completed transactions
- > Renewable energy assets
- > Distributed generation Water

Laurent Dallet



Partner
Zürich
+41 44 578 3917
laurent@greentechcapital.com

- > 15+ years of experience
- > >30 completed transactions
- > Renewable energy assets
- > Distributed energy production
- > Energy efficiency and services

PJ Deschenes



Partner
New York
+1 212 946 3362
pjdeschenes@greentechcapital.com

- > 15+ years of experience
- > >30 completed transactions
- > Renewable energy assets
- > Power infrastructure services
- > Renewable energy value chain
- > Environmental services

Michael Horwitz



Partner
San Francisco
+1 415 697 1561
mhorwitz@greentechcapital.com

- > 20+ years of experience
- > >30 completed transactions
- > Energy software and services
- > Energy efficiency
- > Renewable energy
- > Smart grid

Karen Mozes Laton



Partner & Head of Marketing
New York
+1 212 946 3375
karen@gcainvest.com

- > 20+ years of experience
- > Chief Operating Officer of GCA Investment Management

Jim Long



Partner
Zürich
+41 79 510 3920
jim@greentechcapital.com

- > 25+ years of experience
- > >75 completed transactions
- > Energy companies
- > Utilities

Steve Megyery



Partner
New York
+1 212 946 3949
steve@greentechcapital.com

- > 15+ years of experience
- > >30 completed transactions
- > Head of Private Placements
- > Cleantech
- > Power infrastructure

Diego Pignatelli



Partner
Zürich
+41 44 578 3941
diego@greentechcapital.com

- > 30+ years of experience
- > >60 completed transactions
- > European coverage
- > Industrials and energy companies
- > Utilities

Damien Sauer



Partner
Zürich
+41 44 578 3914
damien@greentechcapital.com

- > 20+ years of experience
- > >50 completed transactions
- > Energy efficiency
- > Power infrastructure
- > Renewable energy value chain
- > Smart grid

Rob Schultz



Partner & COO
New York
+1 212 946 3950
robert@greentechcapital.com

- > 25+ years of experience
- > Chief Operating Officer
- > Chief Compliance Officer

David Smith



Partner & Portfolio Manager
New York
+1 212 946 2231
david@gcainvest.com

- > 20+ years of experience
- > Chief Investment Officer
- > Portfolio Manager of GCA Sustainable Growth Long-Only Fund

Duncan Williams



Partner
San Francisco
+1 415 697 1560
duncan@greentechcapital.com

- > 20+ years of experience
- > >40 completed transactions
- > Advanced transportation
- > Industrial IoT & software
- > Environmental services
- > Advanced building products
- > Water

Disclaimer

This industry update, (the “Monthly Update”) was developed from publicly available information, without any independent investigation or verification thereof by Greentech Capital Advisors, LLC, taken together with its affiliates, (“Greentech”), and Greentech makes no representation or warranty as to the accuracy and completeness of such information. The Monthly Update is not intended to provide, and should not be relied upon for, legal, tax, regulatory, financial, accounting or investment advice. Prior to entering into any transaction advised by Greentech (a “Transaction”), you should determine, without reliance upon Greentech, the economic risks and merits (and independently determine that you are able to assume these risks) as well as the legal, tax and accounting characterizations and consequences of any such Transaction. In this regard, by accepting this Presentation, you acknowledge that (a) Greentech is not in the business of providing (and you are not relying on Greentech for) legal, tax or accounting advice, (b) there may be legal, tax or accounting risks associated with any Transaction, (c) you should receive (and rely on) separate and qualified legal, tax and accounting advice and (d) you should apprise senior management in your organization as to such legal, tax and accounting advice (and any risks associated with any Transaction) and our disclaimers to these matters.

The Monthly Update does not purport to be complete on any topic addressed. The information in the Presentation is provided to you as of the dates indicated and Greentech does not intend to update the information after its distribution, even in the event that the information becomes materially inaccurate. Certain information contained in the Presentation includes calculations or figures which have been prepared by Greentech using physically available information and have not been audited or verified by Greentech or a third party. Greentech has used data sourced from FactSet and has not reviewed or verified this data in the preparation of the Monthly Update. Greentech expressly prohibits any redistribution of the Monthly Update without the prior written consent of Greentech. The Monthly Update is not intended for distribution, or use by, any person or entity in any jurisdiction or country where such distribution or use is contrary to law, rule or regulation.

Greentech is engaged in or may be engaged in the future in investment banking, securities trading, brokerage activities and principal investing activities, as well as providing financial advisory services. The Monthly Update is neither an expressed nor an implied agreement by Greentech to act in any capacity with respect to you, and any such agreement shall only be as set forth in an executed engagement letter, the terms of which are to be agreed upon by you and Greentech. The Monthly Update in no way restricts Greentech or its affiliates from any other engagement, including acting in any capacity in a manner adverse to you.

No fiduciary, advisory or agency relationship between Greentech, on the one hand, and you and your affiliates, employees, officers, directors, or stockholders on the other hand, has been created in respect of the Presentation, and none of your affiliates, employees, officers, directors, or stockholders may rely on the Presentation.